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**(54) MATERIAL TO BE WELDED FOR BUTT  
 WELDING AND ITS CUTTING METHOD AS  
 WELL AS WELDING METHOD AND WIRE**

## (57) Abstract:

**PURPOSE:** To enable welding of pipings which extremely decreases the out-gases from weld zones of ultra-highly clean process devices, ultra-high purity gas supplying piping systems, etc., by cutting the butt surfaces of the members to be welded by a wire cut electric discharge machine.

**CONSTITUTION:** The butt surfaces of the materials to be welded are cut by the wire cut electric discharge machine. The wire surface of the electric discharge machine is preferably a stainless steel or chromium. The stainless steel or chromium of a thickness  $0.1\mu\text{m}$  is preferably adhered on the butt surfaces which are the wire cut surfaces. The formation of oxidation passive films consisting essentially of chromium oxide on weld bead parts may be executed at the prescribed heating temp. of the oxidative gases and may be executed by passing the oxidative gas as B.S.G. at the time of welding. As a result, the welding of the pipings of the ultra-highly clean process devices, the ultra- high purity gas supplying piping systems as well as ultra-pure water apparatus is executed.

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